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BEFORE THE ARIZONA CORPORATION COMMISSION

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COMMISSIONER	COMMISSIONER

IN THE MATTER OF RESOURCE PLANNING AND PROCUREMENT IN 2011 AND 2012.	**DOCKET NO. E-00000A-11-0113**
	COMMENTS OF SOLAR ENERGY INDUSTRIES ASSOCIATION (SEIA)

Please find attached hereto the comments of the Solar Energy Industries Association ("SEIA") in the above referenced docket.

Respectfully submitted this 11th day of October, 2012.

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Original and 13 copies filed this 11th day of October, 2012, with:

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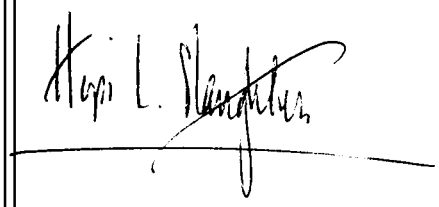

SEIA Solar Energy Industries Association®

October 11, 2012

Docket No.: E-00000A-11-0113

Introduction

The Solar Energy Industries Association ("SEIA")[1] appreciates the opportunity to comment on Arizona Public Service (APS) Company's 2012 Integrated Resource Plan (the "IRP") and recognizes the hard work put into both the document and the workshop process by APS and Commission Staff.

SEIA believes that it is of the upmost importance to identify the great strides the solar energy industry has made in cost reductions and work to integrate solar into the IRP as a traditional resource. For wholesale DG projects (1-20 MW) and traditional utility scale projects, SEIA recommends that the level of solar energy adoption be adjusted to better reflect market and pricing dynamics, rather than be locked into one of the specific plans put forth in the APS IRP document. In other words, there should be market based trigger mechanisms that that provide the opportunity to sensibly ratchet up solar energy deployment.

The benefits of solar

As an ever more cost competitive resource, solar energy provides the following benefits:

- Highly scalable and quick to market
- Little to no water use to operate
- Fixed pricing that can provide a hedge against volatile conventional fuel costs
- Geographically flexible for targeted siting
- Peak energy demand coincidence

APS notes (Table 2 – Summary of Resource Additions) that within the 4 to 15 year Planning Period nearly 4,397 MWs of new utility scale generation sources will need to be added. Of that amount, only 15% or 685 MW would come from coincident-peak capacity renewables, presumably a majority portion from solar energy technology. If natural gas is to remain at its current low prices throughout the long lifespan of the plants APS may build, this would be a prudent move; however, the risk is too great to ratepayers and Arizona to follow a course of heavy natural gas reliance. SEIA is not recommending that solar become the majority source of all generation and we recognize the technical attributes that still need to be improved upon. Nonetheless, we strongly feel that given the economic trajectory of solar today, APS should strive to go above the minimum requirement of the REST in more than just one of their four scenarios, and make solar a larger portion of a balanced portfolio. SEIA also recognizes the valuable role natural gas has in Arizona's resource mix and the complimentary nature of the technology to solar energy. At the same time we must be mindful of the unique geographic characteristics of Arizona, as it is a well-known fact that Arizona contains the best solar insolation in the developed world. It is also known that we lack natural gas reserves and storage which can create supply risk and outages. Most importantly, we lack water resources. APS states "one of the largest needs of a thermoelectric power plant is a predictable, reliable, and cost-effective supply of water used for cooling".

[1] The comments contained in this filing represent the position of SEIA as an organization, but not necessarily the views of any particular member with respect to any issue.

Recommendations

1. **Enhanced Renewable Scenario and Market Responsive Alternative**

It is for these reasons that SEIA supports the Enhanced Renewable Portfolio option. In the alternative, SEIA supports market responsive policy that automatically adjusts solar penetration levels to deal with situations and market prices as they develop within the Planning Period examined by APS. Flexibly should be given to APS to respond to events such as price spikes or water shortages through the deployment of solar. One of the most important benefits of solar is its steady fixed pricing and we encourage the Commission and utilities to take full advantage of this complete predictability to offset variable and unpredictable cost increases associated with gas prices and water resources.

The proposal below offers a guide to how the benefit of the fixed price of solar can be incorporated into the IRP plan to provide ratepayer advantage in the case where gas and water prices rise. SEIA believes that ratepayers will benefit from a plan that is flexible enough to respond to price signals and that can maximize the value of a renewable portfolio. It is important to note that our comments pertain to utility scale and wholesale DG and we make no judgment at this time on the ownership structure of the assets or the specific solar technology. Finally, the framework below is meant to serve as a guidepost for APS as the timing of resource acquisition gets closer.

Should the Commission not adopt the SEIA supported Enhanced Renewable Scenario, SEIA respectfully requests that the following text to be adopted and inserted into the IRP plan. SEIA recommends the following MW levels for the remaining scenarios. These MW figures increase renewable capacity 25% each step up to 75%, but never top the 90% of incremental generation that the Enhanced Renewable Portfolio envisions.

- 1370 MWs of solar energy – If delivered natural gas fuel prices increase 50% from the date of IRP filing
- 2198 MWs of solar energy – If delivered natural gas fuel prices increase 100% from the date of IRP filing
- 3287 MWs of solar energy – If delivered natural gas fuel prices increase 300% or above from the date of IRP filing
- 2198 MWs of solar energy (or higher depending on the previous scenarios) – If the cost of building a new natural gas combined cycle plant is more expensive or within 10% of the LCOE of a solar energy plant.
    - Inputs and technologies for the calculation to be crafted by a subsequent stakeholder process of industry representatives, Commission Staff, technical experts, and utility staff.
- 2198 MWs of solar energy – If water constraints occur in Arizona or a more than anticipated increase in water prices (Table 37 - Externalities - NOx, SOX, PMIO, Marginal Cost of Water) takes place to the following specifications:

- 1370 MWs of solar energy - Marginal Cost of water ($/Acre-Feet) is 10% or more than predicted in the given year stated in the IRP.
- 2198 MWs of solar energy - Marginal Cost of water ($/Acre-Feet) is 20% or more than predicted in the given year stated in the IRP.
- 3287 MWs of solar energy - Marginal Cost of water ($/Acre-Feet) is 30% or more than predicted in the given year stated in the IRP.
- Definitions of "water constraints" would be crafted by a subsequent stakeholder process of industry representatives, Commission Staff, technical experts, and utility staff.

In addition to the policy recommendation above, SEIA would also like to address the modifications made to Figure 13 - Technology Cost Comparison: Delivered Cost and Installed Cost by APS during the August 22nd workshop. First, the assumed installed cost of $2.50/Watt for a single axis tracker PV system in 2015 is high and may already be out of date. Second, solar is not alone in the possibility of having subsides taken away early, conventional fuels also have federal subsidies that could be pulled back. Third, the presumed high natural gas price scenario does not even bring fuel pricing assumptions back to 2008 levels; it is too low for a high gas price situation. In fact, in 2027 APS assumes for their high gas scenario that prices will be around $11/mmBTU, a level exceeded back in 2005 and 2008.

2. Distributed Generation Predictions and Planning

In regards to distributed generation (DG), SEIA appreciates APS's attempt to estimate penetration levels over the next 15 years. However, instead of a linear increase in adoption, SEIA could foresee a more exponential curve as solar prices fall below retail parity. In fact, DG adoption has not been linear historically so there is no reason to believe it would become linear in the future. We believe the APS IRP should be flexible enough to accommodate a different approach and should not continue to map a linear growth pattern that history fails to support. Increased DG uptake could very well defer the need to build some additional centralized plants and corresponding transmission facilities. To complement its linear growth model, we suggest APS examine a more exponential growth path and readjust centralized capacity accordingly. If APS stands behind a linear model then we request that they please explain all the assumptions used to derive this forecast.

3. Small Generator RFP

Finally, SEIA would like to make one last policy recommendation that is critical to Arizona remaining a top tier state in solar energy. SEIA urgently requests the continuation of the Small Generator RFP program for at least 25 MW a year in competitive solicitations. This policy should be recommended in the IRP and authorized in the 2013 REST implementation plan. These projects represent the most cost effective fixed rate electricity that hits peak and shoulder demand currently available. The Small Generator projects should be encouraged for ratepayer benefit to maximize this cost effective implementation.

It is also important to note that these projects employ thousands of Arizonans and while the Commission is not an economic development body; its policies have important economic impacts. Unfortunately, the market had acted in reliance on the approved Small Generator RFP program moving forward and the discontinuation of the program signals to the market that regulatory uncertainty exists in Arizona. While the Commission does not take action to create jobs, it has long been sensitive to the ways in which uncertainty about regulatory matters can harm a market and ultimately be bad for ratepayers. The Small Generator RFP should move

forward as planned.

Conclusion

SEIA would like once again thank APS and Staff for taking our comments into consideration. In sum, our core policy recommendations are as follows:

1. Adopt the Enhanced Renewable Portfolio or incorporate market based triggers to ratchet up solar energy deployment within the Planning Period to hedge against fuel price spikes, supply shocks, and water scarcity. The REST should be treated as a floor now that solar energy is increasingly cost competitive with other new forms of generation.
2. Recommend reinstatement of the Small Generator RFP program to generate cost effective and unique solar projects that benefit the state of Arizona and continue our momentum as a top tier solar state.